



**ENGINEERING OPERATIONS COMMITTEE
MEETING MINUTES
May 12, 1994, 1:00 P.M.
EXECUTIVE CONFERENCE ROOM**

Present:	R. A. Welke	G. D. Dobie	C. J. Arnold
	G. D. Taylor	C. Roberts	J. K. Erickson - FHWA
	J. D. O'Doherty	L. A. Kinney	L. R. Brown
	P. Miller	J. W. Reincke	
Guests:	W. C. Turner	M. VanPortFleet	E. D. Winkler
	G. Grove	I. Patel	

Minutes of April 14, 1994, meeting were approved as written.

OLD BUSINESS

1. Clarification of November 3, 1993, Meeting Minutes, Item No. 1 under Old Business "Paving Under Guardrail Sections" - C. Arnold

District 4 submitted a recommendation for extending bituminous shoulder paving under guardrail sections out to the hinge point of the embankment. This treatment minimizes maintenance under the rail section by eliminating erosion and weed growth and enhances the appearance. After 5 years the paved rail section still looks good.

Decision: Approve extending bituminous shoulder paving (220 lbs per square yard) under guardrail sections out to the hinge point of the embankment as an option available to the designer for new construction or reconstruction.

Clarification: Roadway projects, including new construction and reconstruction, having shoulder pavement work requiring bituminous asphalt and guardrail installation, then there is an option available to the designer to provide paving under the guardrail section.

ACTION: Design Division will prepare a memorandum of instruction on how "Paving Under Guardrail Sections" will be incorporated into design practice and procedures.

2. Plastic, Corrugated Metal and Concrete Pipes, Follow-Up - R. Welke

This discussion was a continuation of this item reported in the April 14, 1994, meeting minutes. R. Welke reinforced the department's commitment to the pipe industries and intent to conduct a study on the use of plastic, corrugated metal and concrete pipes.

Mark Van Port Fleet presented the Pipe Selection Task Force proposal to conduct the field inspection of plastic, corrugated metal and concrete pipe; and include the following:

Pipe will be randomly selected considering geography, supplier, installation contractor, pipe size, etc..

Review and address where appropriate existing specification and standard plans.

An investigation of the types of failures to be observed and identify reasons for failure.

A scope of work statement will be developed to contract the cleaning, video taping, mandrel testing (plastic pipe only), and condition assessment of the pipe material.

The consultant/contractor report will be used to assist the department in determining the applicable uses of each pipe material.

The estimated cost of \$125,000.00 required for the study is not currently programmed.

ACTION: The EOC approved the Pipe Selection Task Force proposal and project costs to engage a consultant to conduct the proposed project (with included revisions). Projects costs will be coordinated by M&T with available research funding.

3. **Review of Polymer Modification of Bituminous Mixture - E. Winkler**

The Bituminous Advisory Committee (BAC) was charged to review the subject recommendations in Jim D. Culp's memo of January 12, 1994, (see William Berube memo to R.A. Welke, December 23, 1993) at the February 1 meeting.

Ed Winkler revealed that there have been situations on department projects where an incompatibility exists between polymers when blended with certain asphalt cements (in one particular case, the polymer was a styrene butadiene rubber or latex). When this incompatibility occurs, there is little or no increase in beneficial properties for the asphalt binder. The mechanisms behind these occurrences are currently being investigated.

On May 5, 1994, M&T staff inspected two latex overlay projects; M-39, Southfield Freeway and I-96 at Novi, as part of our Latex Modified Bituminous Overlays Research Project 85D-50. Photographs were made and are available for inspection. I-94 at Battle Creek has been microsurfaced and was, therefore, not visited. There was no observable rutting while rutting of the conventional section on I-96 measured between $\frac{1}{4}$ and $\frac{1}{2}$ inch.

The surface of all sections of overlay which were inspected were in generally good condition. In all sections, however, the old joints had reflected through the

overlay and were tented. Except for rutting on I-96 and the reflected joints, all sections were in good condition.

The Bituminous Advisory Committee and M&T staff are in agreement with the recommendation of making no revisions to M●DOT's current policy as outlined in Informational Memorandum #379R at this time.

The EOC approved the BAC recommendation.

ACTION: The EOC referred this issue back to the BAC for a review of present design practices with respect to on-going research and field experience, and develop criteria for the use of Polymer Modifications of Bituminous Mixtures. The BAC will report back to the EOC at the July, 1994, meeting.

4. **Status of Concrete Quality Control/Quality Assurance Specification, Clarification on Intent - G. Grove**

At the EOC February 2, 1994, it was agreed that the concrete performance specifications (i.e. QC/QA) would remain in Special Provision form, anticipating more changes over the next two years. Refinements will be necessary before it becomes a Supplemental Specification. It was emphasized that quality control is the contractor's responsibility and should not be detailed in our 1996 spec book. Quality assurance is MDOT's responsibility and reference to it in the 1996 book shall be in general terms only. The details of performance specifications will be left to the Special Provisions at first and later in Supplemental Specification form. It was recommended that we start referring to our QA requirements as "Performance Specifications" and try to be more uniform in our treatment of all performance specifications (Concrete, Bituminous, Aggregates, etc.).

ACTION: The Division 6 and 7 spec book committees are directed not to spend a significant amount of effort rewriting the 1990 methods specifications. Reference to our performance based Special Provisions will appear in the 1996 book, but details will remain in the Special Provision.

Also, portions of our Standard Specifications that MDOT no longer needs are to be deleted from the 1996 book. Agencies outside MDOT, such as counties and cities, can reference our 1990 book or write their own method specifications.

Question: Does Paragraph 2 of the "Action" extend over the entire 1996 book?

Clarification: The EOC intent is to have the specification book committees, as part of their review, take out all portions that are no longer appropriate and/or necessary.

NEW BUSINESS

1. **Report on Feasibility of Global Positioning System (GPS) for the Department - L. Christenson**

This item was tabled for the June 2, 1994, meeting.

2. **Statistical Work Regarding Federal and State Routes - R. Welke**

This item was discussed as part of Old Business (OB) Item No. 3.

ACTION: Refer to OB Item No. 3.

3. **Pavement Type Selection for Approval, New Construction of M-6 (Grand Rapids South Beltline), from I-196 to I-96 in Ottawa and Kent Counties (20.3 Miles), District 5 - I. Patel**

Decision: Approve the bituminous alternative as follows:

1-1/4"	Bituminous Mix "4C" Top Course
1-3/4"	Bituminous Mix "3C" Levelling Course
6"	Bituminous Base Mix "11A" - Mainlines
9" to 6"	Bituminous Shoulders - (6" to 3" Bit. Base Mix "11A")
6"	Aggregate Base Course
24"	Sand Subbase with - 6" Underdrains

ACTION: Design Division will proceed with project development to meet a July, 1995, completion date.

4. **Pavement Type Selection for Approval, Reconstruction for US-23 from One Mile North or US-223 to Ida Center Road, 4.1 Miles (One Direction Experimental 30% to 40% Ground Granulated Blast / Furnace Slag as Cementitious Constituent in Concrete), Monroe County, District 8 - I. Patel**

Decision: Approve the concrete alternate recommended by the Pavement Selection Review, Design Division and district as follows:

10½"	Reinforced Concrete Pavement (27' joint)
10½" to 8"	Reinforced Concrete Shoulders
4"	Open Graded Drainage Course, Stabilized
3"	Aggregate Separator (22A)
10"	Ex. Sand Subbase - Add Underdrains

ACTION: Design Division will proceed with project development to meet a July, 1994, completion date. M&T will provide specification for experimental Ground Granulated Blast/Furnace Concrete.

5. **Pavement Cost Item for I-96 (Cost Increase), District 5 - L. Brown**

Larry Brown expressed his concerns regarding the district's effort to rebuild a CRC section of I-96 on the southwestern side of Grand Rapids. The project is scheduled for a letting date in FY 1994. However, in considering various alternatives, the projected construction cost of approximately \$5.0 million will be higher than what is budgeted for the project. The discussion pursued around the

options available that will take care of needs, provide a proper fix and will be within budget. James Erickson indicated that FHWA experience has shown that if the pavement is caught in time, early before deterioration starts, a 3-inch cap is fine.

ACTION: District 5 will work with the Design Division and FHWA to come up with an alternate design and delay this job until 1995.

(Signed Copy on file at M&T)

Calvin Roberts, Secretary
Engineering Operations Committee

cc

EOC Members
District Engineers

G. H. Grove

E. D. Winkler

L. W. Martin

L. E. DeFrain

I. B. Patel

G. J. Bukoski

G. J. McCarthy

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